BOTANICAL NOTES

MYCOLOGICAL NOTES

As usual the new Report of the State Botanist[1] is very largely given over to the classification and description of the larger fungi. Nine colored plates, mostly of the edible fungi, accompany the report.

C. N. Jensen's "Fungous Flora of the Soil"[2] brings together what is known as to the fungi ordinarily to be found in the soil. After a general discussion of the subject accompanied by the citation of many publications, the fungi are arranged and described in systematic sequence. In the latter part there are many helpful figures in the text.

Professors L. R. Jones, N. J. Giddings and B. F. Lutman publish[3] the results of their investigations of the potato fungus *Phytophthora infestans*. It is a summary of the present state of our knowledge of this parasitic fungus, and includes a long list of the literature of the subject (105 titles), and ten plates.

Miss Frances Dorrance (Dorranceton, Pa.) has made an English translation of Part XIII. of Dr. Oscar Brefeld's "Investigations in the General Field of Mycology." Only 150 copies were printed and these were privately distributed. The work appears to be carefully done, and since this part relates to Smut Fungi, the translation should have a wide sale. ($1.75.)

SYSTEMATIC NOTES

"THE North American Species of Nymphaea" is the title of a paper by G. S. Miller and P. C. Standley, and is issued as one of the Contributions from the U. S. National Herbarium (Vol. 16, Pt. 3). The genus here monographed is what many of us learned as *Nuphar,* and includes the Yellow Water-lilies of the country. After a long study of these plants the authors are able to recognize nineteen species for North America, five of which are quite widely distributed, viz.: *N. microphylla* Pers. (eastern Canada, New York to New Jersey), *N. rubrodisca* (Morong) Greene (Canada, New York to New Jersey), *N. americana* (Prov.) M. & S. (eastern Canada to British Columbia, south to Nebraska, Ohio and New Jersey), *N. advena* Ait. (New York and New Jersey to Wisconsin, Nebraska, Kansas, Kentucky and North Carolina), *N. polysepala* (Engl.) Greene (Alaska to California, eastward to Colorado and South Dakota). The illustrations and maps showing distribution of species add to the value of the paper.

Dr. William Trelease essays a classification of the Black Oaks in a recent paper in the *American Philosophical Society* (Vol. LI., 1912), accompanying the paper with four plates of buds and acorns.

THE RETURN OF THE NATIVE FLORA

RECENTLY Professor M. R. Gilmore, of Lincoln, called my attention to an observation which he had made upon the return of the native flora on an abandoned tree plantation on the high Nebraska plains. At my request he has given the particulars in the following summary statement:

It is a problem of much interest to the writer hereof to observe the repossession by the native flora of areas from which it has been dispossessed. Among the places of which particular note has been made was an abandoned tree claim in Sheridan County, Nebraska, in the topographic region known as the High Plains, popularly called the Short-grass Country. This observation was made in the first week of August, 1912, on a tract of land about six miles northwest of Rushville, Nebraska, which had been entered under the Timber Claim Act of Congress. The number of acres required by law to be planted with trees had been broken out (plowed) and set in elm and ash trees, and after that nothing more had been done to the land, so that for about twenty years the original flora has been gradually repossessing the ground. I estimated that about 5 per cent. to 10 per cent. of the trees were still struggling to live, being in no case more than ten feet tall, and in most cases not more than two and a half feet tall and many less than that. Following I give a list of twenty-five species by name which I found to be stably reestablished, besides which I found half a dozen or more others which I did not identify. Those identified were: *Bulbilis dactyloides* (Nutt.) Raf., *Stipa comata* Trin. and Rupr., *Malvastrum coc-*

[1] Bull. 157, N. Y. State Museum.

[2] Bull. 315, Cornell University Expt. Station.

[3] Bull. 245, Bureau of Plant Industry, U. S. Dept. Agric.

cineum (Pursh.) A. Gray, *Pentstemon* sp., *Artemisia frigida* Willd., *Brauneria pallida* (Nutt.) Britton, *Grindelia squarrosa* (Pursh.) Britton and Rusby, *Astragalus* sp., *Psoralea floribunda* Nutt., *Erigeron* sp., *Kuhnistera purpurea* (Vent.) MacM., *Lithospermum* sp., *Ratibida columnaris* (Sims.) D. Don., *Antennaria campestris* Rydb., *Verbena hastata* L., *Verbena bracteosa* Michx., *Helianthus scaberrimus* Ell., *Carduus altissimus* L., *Bœbera papposa* (Vent.) Rydb., *Solidago* (two species, unidentified), *Aster* sp., *Solanum carolinense* L., *Rosa arkansana* Porter.

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PALEOLITHIC MODELERS IN CLAY

THE discovery, on July 20 last, by Count Bégouen and his two sons, of a new French cavern with paleolithic mural decorations has already been noted in SCIENCE.[1] This cavern, called Tuc d'Audoubert, situated near St. Girons (Ariège), was visited by the writer five days after its discovery, but did not even then yield up all its secrets. We noted certain small openings leading apparently to other galleries then closed against us by deposits of stalactite and stalagmite. At Geneva in September Count Bégouen informed me that he had entered one of these and found additional parietal engravings. In a communication to me dated October 23, he announces that at the end of still another long and difficult upper gallery, reached only after breaking away stalagmite pillars, he and his sons have found two clay statuettes intact, representing the *Bison,* male and female 63 and 61 centimeters long respectively. In an antechamber as well as the upper gallery these Magdalenian artists also left their footprints on the soil superimposed on footprints of the cave bear, whose skeletal remains were strewn upon the cavern floor. All the canines were missing, however, from the jaws, having evidently been removed as Magdalenian trophies. A perforated tooth (Bovidæ) and several flint implements were found on the cavern floor.

The artist races inhabiting southern Europe in later paleolithic times were sculptors of real merit. They worked laboriously in stone, ivory, bone, and horn with excellent results and without the use of metal tools. That paleolithic man had realized any of the possibilities of clay as a plastic medium has always been denied. Absence or presence of pottery has been universally invoked as a chief factor in distinguishing paleolithic and neolithic horizons. The clay figures found by Count Bégouen are unbaked, to be sure; but they prove that only the accident of firing stood between the Magdalenian races and one of the great inventions of all time. These figures were never wholly separated from the matrix out of which they were fashioned. They seem to stand out of a clay talus slope that flanks a fallen rock, the male following the female. For the present no attempt will be made to remove them from this shrine.

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[1] August 30, 1912, p. 269.

THE PROGRESS OF MOUNT ROSE OBSERVATORY, 1906–1912

MOUNT ROSE OBSERVATORY, although the youngest of the meteorological observatories in America, has an environment so unique that its staff has not only obtained a series of problems of prime importance to pure science and to agriculture but has also found such abundant material that rapid progress has been possible in their solution. A brief statement of plans and progress at this observatory may, therefore, not be without interest to workers in the meteorological field.

Mount Rose is a peak of the Sierra Nevada Mountains at the western edge of the Great Plateau. The observatory on the summit, which is 3,292 meters above sea level, at present is the highest meteorological station in the United States, and was established privately for the purpose of ascertaining the winter minimum temperatures at the summit of the Sierra. Later it was made a department of the University of Nevada and the Agricultural Experiment Station and through these institutions has received financial aid from the state and from the Adams Fund of the Office of Experiment Stations.